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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,399	07/24/2007	Soon-Tae Ahn	SAMH100002000	8173
22891 7590 10/05/2010 LAW OFFICE OF DELIO & PETERSON, LLC. 121 WHITNEY AVENUE NEW HAVEN, CT 06510				
EXAMINER				
KESSLER, CHRISTOPHER S				
ART UNIT		PAPER NUMBER		
1733				
MAIL DATE		DELIVERY MODE		
10/05/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/583,399

Applicant(s)

AHN, SOON-TAE

Examiner

CHRISTOPHER KESSLER

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 August 2010 has been entered.

Status of Claims

2. Responsive to the amendment filed August 2010, claims 1 and 3 are amended and claims 5 and 6 are added. Claims 1-6 are currently under examination.

Status of Previous Rejections

3. Responsive to the amendment filed August 2010, new grounds of rejection are presented.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 5 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 5 and 6 require that the steel is induction heated without plastic deformation.

However, the claimed step of heating "without plastic deformation" is not described in the instant specification.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0066576 A1 (hereinafter "Ahn"). The examiner notes that Ahn is the pregrant publication corresponding to 6,752,880 cited by applicant.

Regarding the method claim 3, Ahn teaches the invention substantially as claimed. Ahn teaches a method of producing a steel wire for cold forging (see abstract, title, Summary of the Invention). Ahn teaches that the steel contains 0.21% C, 0.22% Si, 0.75% Mn, 0.012% P and 0.009% S (see [0040]), said range falling within the

compositional range as claimed and establishing a *prima facie* case of obviousness for that range.

Ahn teaches heating the steel to temperature of 880-1300°C by induction heating (see [0041]), the temperature range overlapping the claimed range and establishing a *prima facie* case of obviousness for that range. Ahn further teaches wherein the austenite grain size is made to be 5-90 μm (see [0041]), said range overlapping the range as claimed and establishing a *prima facie* case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have selected a prior austenite grain size in the range as claimed because Ahn teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Ahn teaches that the steel is rapidly cooled (quenched) and tempered (see [0041]). Ahn teaches that in the tempering, the steel is heated by induction heating for a time of 40 seconds to temperatures of 200-750°C (see [0041]). Thus, the range of P value taught by Ahn overlaps the claimed range, establishing a *prima facie* case of obviousness. It would have been obvious to one of ordinary skill in the art to have selected a value of T that would correspond to the claimed value of P, because Ahn teaches the same utility over the entire range disclosed.

Regarding the mechanical properties of the wire, Ahn is silent with regard to the impact absorption energy of the wire. Ahn teaches several examples falling within the tensile strength range and the austenite grain size range as claimed (see Tables 1 and 2). Thus the method with the overlapping parameters of austenite grain size, and tempering parameter would have made the claimed properties inherent in the steel,

because the same material as claimed processed in the same way as claimed must have the same properties. Applicant is further directed to MPEP 2112.01.

Regarding claim 4, Ahn teaches that the steel further comprises 1.10% Cr (see [0040]), meeting the compositional limitation of the claim.

Regarding claims 5 and 6, Ahn does not teach that any plastic deformation takes place during the heating.

Regarding claims 1 and 2, Ahn teaches several examples falling within the tensile strength range and the austenite grain size range as claimed (see Tables 1 and 2). Thus the method with the overlapping parameters of austenite grain size, and tempering parameter would have made the claimed properties inherent in the steel, because the same material as claimed processed in the same way as claimed must have the same properties. Applicant is further directed to MPEP 2112.01.

Response to Arguments

8. Applicant's arguments filed 17 August 2010 have been fully considered but they are not persuasive.

Applicant argues that the specification provides support for the negative limitation "without plastic deformation" because the specification is silent with regard to plastic deformation. However, the mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Note that a lack of literal basis in the

specification for a negative limitation may not be sufficient to establish a prima facie case for lack of descriptive support. Ex parte Parks, 30 USPQ2d 1234,1236 (Bd. Pat. App. & Inter. 1993). Applicant is further directed to MPEP 2173.05(i).

Applicant's arguments with respect to Kanisawa have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER KESSLER whose telephone number is (571)272-6510. The examiner can normally be reached on Mon-Fri, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 1793

/ Roy King/
Supervisory Patent Examiner, Art
Unit 1793

Csk